

HAT2226R

Silicon N Channel MOS FET
High Speed Power Switching

REJ03G1466-0100

Rev.1.00

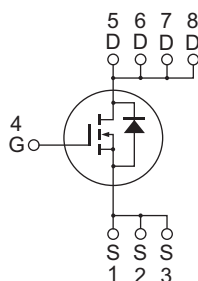
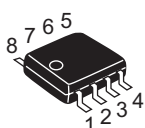
Jul 18, 2006

Features

- Low on-resistance
- Low drive current
- High density mounting

Outline

RENESAS Package code: PRSP0008DD-D
(Package name: SOP-8<FP-8DAV>)



1, 2, 3 Source
4 Gate
5, 6, 7, 8 Drain

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	600	V
Gate to source voltage	V_{GSS}	± 30	V
Drain current	I_D	0.1	A
Drain peak current	$I_{D(pulse)}$ ^{Note1}	0.4	A
Body-drain diode reverse drain current	I_{DR}	0.1	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ ^{Note1}	0.4	A
Channel dissipation	P_{ch} ^{Note2}	1.5	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. $PW \leq 10 \mu s$, duty cycle $\leq 1\%$

2. When using the glass epoxy board (FR4 40 x 40 x 1.6 mm), $PW \leq 10 s$

Electrical Characteristics

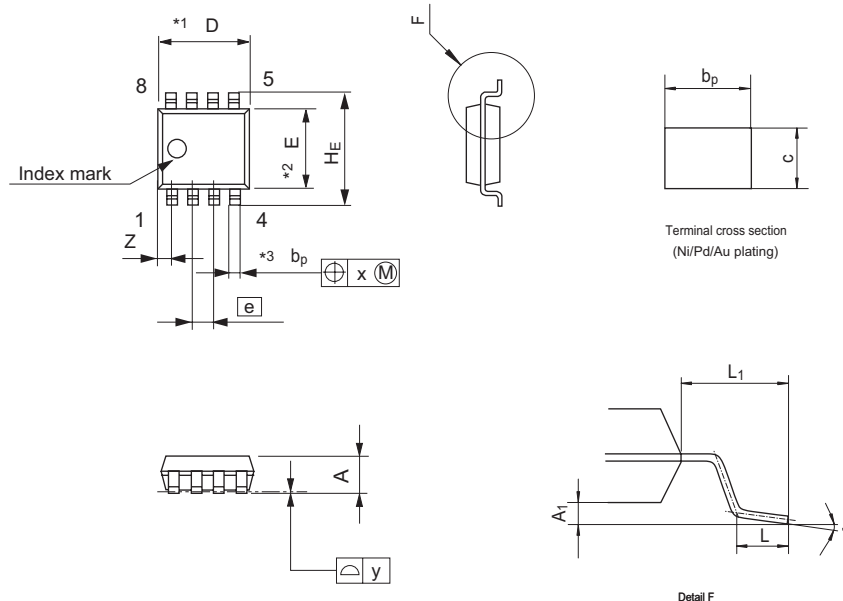
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	600	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1	μA	$V_{DS} = 600 \text{ V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 0.1	μA	$V_{GS} = \pm 30 \text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	3.0	—	5.0	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ mA}$
Static drain to source on state resistance	$R_{DS(on)}$	—	35	52	Ω	$I_D = 50 \text{ mA}$, $V_{GS} = 10 \text{ V}$ ^{Note3}
Input capacitance	C_{iss}	—	25	—	pF	$V_{DS} = 25 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	4	—	pF	
Reverse transfer capacitance	C_{rss}	—	0.4	—	pF	
Turn-on delay time	$t_{d(on)}$	—	34	—	ns	$I_D = 50 \text{ mA}$ $V_{GS} = 10 \text{ V}$ $R_L = 6000 \Omega$ $R_g = 10 \Omega$
Rise time	t_r	—	16	—	ns	
Turn-off delay time	$t_{d(off)}$	—	57	—	ns	
Fall time	t_f	—	320	—	ns	
Total gate charge	Q_g	—	3.1	—	nC	$V_{DD} = 480 \text{ V}$ $V_{GS} = 10 \text{ V}$ $I_D = 100 \text{ mA}$
Gate to source charge	Q_{gs}	—	0.5	—	nC	
Gate to drain charge	Q_{gd}	—	2.3	—	nC	
Body-drain diode forward voltage	V_{DF}	—	0.79	1.35	V	$I_F = 100 \text{ mA}$, $V_{GS} = 0$ ^{Note3}
Body-drain diode reverse recovery time	t_{rr}	—	175	—	ns	$I_F = 100 \text{ mA}$, $V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Notes: 3. Pulse test

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
SOP-8	P-SOP8-3.95 × 4.9-1.27	PRSP0008DD-D	FP-8DAV	0.085g



NOTE)
 1. DIMENSIONS $*1$ (Nom) AND $*2$ DO NOT INCLUDE MOLD FLASH.
 2. DIMENSION $*3$ DOES NOT INCLUDE TRIM OFFSET.

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	4.90	5.3
E	—	3.95	—
A ₂	—	—	—
A ₁	0.10	0.14	0.25
A	—	—	1.75
b _p	0.34	0.40	0.46
b ₁	—	—	—
c	0.15	0.20	0.25
c ₁	—	—	—
θ	0°	—	8°
H _E	5.80	6.10	6.20
ϕ	—	1.27	—
x	—	—	0.25
y	—	—	0.1
z	—	—	0.75
L	0.40	0.60	1.27
L ₁	—	1.08	—

Ordering Information

Part Name	Quantity	Shipping Container
HAT2226R-EL-E	2500 pcs	Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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